

eclipse of April 7, 1921, at the Paris Observatory.—**H. Douville**: The explanation of the appearance of certain new forms of Lamellibranchs.—**A. de Gramont**: The utility in physical astronomy of the consideration of sensibility of lines of the spectrum.—**M. de Sparre**: The maximum yield of turbines.—**M. Emile Borel** was elected a member of the section of geometry in succession to the late Georges Humbert.—**P. Humbert**: The polynomials of Hermite-Didon and the Laplace functions in hyperspace.—**A. Denjoy**: The characters of certain integrable functions and the corresponding operations.—**C. Nordmann**: The apparent diameter of α Orion. The apparent diameter of this star has been recently determined by Michelson, making use of an interference method the principle of which is due to Fizeau. Michelson's figure 0.046" is compared with the figure (0.059") obtained by the author's indirect method based on photometry.—**E. Esclançon**: Observations of the eclipse of the sun of April 8 made at the Strasbourg Observatory.—**A. Lebeuf**: The eclipse of the sun of April 7, 1921. *Résumé* of observations carried out at the Besançon Observatory.—**M. Moreux**: Observation of the eclipse of the sun of April 8, 1921. The phenomenon of the black drop was seen during this eclipse.—**M. Michkovitch**: Observations of the Reid comet (1921a) made at the Observatory of Marseilles with the Eichens 26-cm. equatorial. Positions are given for April 4, 5, and 6.—**J. Mascart**: The eclipse of the sun of April 7, 1921, at the Observatory of Lyons.—**P. Stroobant**: The flattening of the spheroid of Saturn. From the displacements of the line of nodes of the satellites an average figure of 0.1027 or 1/9.74 is found for the flattening. This value is probably more accurate than data based on direct determinations.—**A. Dauvillier**: The structure of the L series.—**G. Reboul** and **R. Luce**: The influence of the geometrical form of solid bodies on the chemical actions which they undergo. Further experimental confirmation of the conclusions arrived at in an earlier confirmation; the velocity of reaction is always greatest at the points where the radius of curvature is smallest.—**A. A. Guntz**: An automatic apparatus for recording the variations of a gaseous mass with time. The manometer measuring the volume changes in the gas has a fine nichrome wire stretched throughout its length; this forms an arm of a Wheatstone bridge, and thus the volume changes converted into resistances are recorded photographically. The whole of the gas is kept at constant disgregation by balancing against a compensation tube kept at a constant temperature. This balance is maintained automatically by a separate electrical arrangement.—**C. Matignon** and **Mlle. G. Marchal**: The use of enamelled bombs in calorimetry. Some of the enamels now in use for lining calorimetric bombs are attacked by dilute acids, and the amount dissolved is sufficient to interfere with the accuracy of the nitric acid correction, and also with the use of the bomb in analytical determinations (sulphur, phosphorus, etc.). The effect is most marked with new enamel.—**G. Dupont**: Contribution to the study of the acid constituents of the resinous exudation from the pine. The dextro- and lævo-pimaric acids. By the usual methods of extraction the lævo-acid is converted into its optical isomeride. The technique necessary for the isolation of either acid in a pure state is described.—**J. Rouch**: Observations of the electrical field of the atmosphere during the eclipse of the sun of April 8, 1921. The electrical field underwent a marked diminution; there was a lag of about an hour from the middle of the eclipse.—**A. Briquet**: The Low Country of Picardy north of the Somme; the line of the ancient bank.—**S. Stefanescu**: The asymmetry and the technical

longitudinal sections of the crown of the molars of mastodons and elephants.—**A. Dehorne**: Heterotypy in the somatic mitosis of *Corethra plumicornis*.—**P. Wintrebert**: The aneural irritability of the ectoderm revealed by the ciliary displacement of the embryo in *Rana temporaria*.—**W. Kopaczewski**: Surface tension and antianaphylaxy. A criticism of the views and experiments of M. A. Lumière on the importance of surface tension in connection with anaphylactic shock.—**M. Kayser**: Researches on the azobacter.

Books Received.

- Aspects of Plant Life, with Special Reference to the British Flora. By Robert L. Praeger. (Nature Lover's Series.) Pp. 208. (London: S.P.C.K.; New York: The Macmillan Co.) 6s. net.
- The Yearbook of the Universities of the Empire, 1921. Edited by W. H. Dawson. Pp. xiv+571. (London: G. Bell and Sons, Ltd.) 15s. net.
- Le Destin des Etoiles: Etudes d'Astronomie physique. By Svante Arrhenius. Traduction française by T. Seyrig. (Nouvelle Collection scientifique.) Pp. v+224. (Paris: F. Alcan.) 8 francs net.
- Thermodynamics and Chemistry. By Prof. F. H. MacDougall. Pp. v+391. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 30s. net.
- The Practice of Silviculture. By Prof. Ralph C. Hawley. Pp. xi+352. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 22s. net.
- The Formation of Colloids. By Prof. Th. Svedberg. (Monographs on the Physics and Chemistry of Colloids.) Pp. 127. (London: J. and A. Churchill.) 7s. 6d. net.
- Man and his Past. By O. G. S. Crawford. Pp. xv+227. (London: Oxford University Press.) 10s. 6d. net.
- Critical Microscopy: How to Get the Best out of the Microscope. By Dr. Alfred C. Coles. Pp. viii+100+iii plates. (London: J. and A. Churchill.) 7s. 6d. net.
- Drugs in Commerce: Their Source, Preparation for the Market, and Description. By John Humphrey. (Common Commodities and Industries.) Pp. xi+116. (London: Sir I. Pitman and Sons, Ltd.) 3s. net.
- Stella Maitland; or, Love and the Stars. By Hester P. Hawkins. Pp. viii+249. (London: Simpkin, Marshall and Co., Ltd.) 6s. net.
- Faune de France. By Prof. R. Koehler. No. 1: Echinodermes. Pp. 210. (Paris: P. Lechavelier.)
- Post-Graduate Teaching in the University of Calcutta, 1919-20. Pp. 112. (Calcutta: University Press.)

Diary of Societies.

THURSDAY, MAY 5.

- IRON AND STEEL INSTITUTE (Annual Meeting) (at Institution of Civil Engineers), at 10 and 2.30.—**H. Brearley**: The Welding of Steel in relation to the Occurrence of Pipe Blow Holes and Segregates in Ingots.—**Dr. J. E. Stead**: Solid Solution of Oxygen in Iron.—**H. T. Ringrose**: Scientific Control of Combustion.—**J. E. Fletcher**: Open-hearth and Other Slags—their Composition and Graphic Methods for determining their Constitution.—**S. H. Fowles**: Notes on the Cleaning of Blast-furnace Gas.
- ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—**Dr. C. S. Myers**: Psychological Studies: (1) The Localisation of Sound.
- INSTITUTE OF PATHOLOGY AND RESEARCH (St. Mary's Hospital, Paddington), at 4.30.—**Prof. L. Hill**: Capillary Blood Pressure and Edema.
- ROYAL SOCIETY, at 4.30.—**Dr. H. Head**: Release of Function in the Nervous System (Croonian Lecture).
- LINNEAN SOCIETY, at 5.—**Prof. J. Stanley Gardiner**: Reports on Collections from the Indian Ocean for Issue in the Society's Forthcoming Transactions, vol. xviii.—**E. R. Speyer**: Insects

in relation to Reproduction in Coniferous Trees.—Prof. W. J. Dakin: The Collections from the Houtman Abrolhos Islands in 1913.

ROYAL INSTITUTE OF BRITISH ARCHITECTS, at 5.—F. C. Eden: Architecture and Travel.

CHILD-STUDY SOCIETY (at Royal Sanitary Institute), at 6.—Miss F. E. Webb and Others: Individual Training in the School.

INSTITUTION OF ELECTRICAL ENGINEERS (at Institution of Civil Engineers), at 6.—Discussion on Tariffs (continued).

CHEMICAL SOCIETY, at 8.—G. A. R. Kon: The Formation and Stability of *spiro*-Compounds. Part IV. The Formation of Ketones Derived from Open-chain and Cyclic Glutaric Acids by the Thermal Decomposition of their Calcium Salts.—G. W. Monier-Williams: The Hydrolysis of Cotton Cellulose.—J. L. Baker and H. F. E. Hulton: Amylases of the Cereal Grains: Rye.

ROYAL SOCIETY OF MEDICINE (Obstetrics and Gynaecology Section), at 8.—Annual General Meeting.—H. Curtis: Angioma of the Vagina Spontaneously Evacuated.—Dr. A. E. Giles and Others: The Causes and Treatment of Sterility.

FRIDAY, MAY 6.

IRON AND STEEL INSTITUTE (Annual Meeting) (at Institution of Civil Engineers), at 10 and 2.30.—S. N. Brayshaw: The Prevention of Hardening Cracks, and the Effect of Controlling the Recalescence of a Tungsten Tool Steel.—Dr. J. Newton Friend: The Protection of Iron with Paint against Atmospheric Corrosion.—K. Honda, T. Matsushita, and S. Idei: The Cause of Quenching Cracks.—W. E. Hughes: Slip-lines and Twinning in Electrodeposited Iron.—A. Westgren: Röntgen Spectrographic Investigations of Iron and Steel.—J. H. Whiteley: Cupric Etching Effects produced by Phosphorus and Oxygen in Iron.

ROYAL SOCIETY OF MEDICINE (Laryngology Section), at 4.45.—Annual General Meeting.

ROYAL ASTRONOMICAL SOCIETY (Geophysical Discussion), at 5.—Sir Napier Shaw, Col. E. Gold, W. H. Dines, and F. J. W. Whipple: The Structure of the Atmosphere up to 20 kilometres. Chairman: Dr. G. C. Simpson.

INSTITUTE OF TRANSPORT (Graduates and Students' Section) (at Royal Society of Arts), at 5.—D. J. Owen: Docks and Harbours: General Structural Lay-out, Systems of Control, Operation, and Charges.

JUNIOR INSTITUTION OF ENGINEERS, at 8.—D. W. Wood: Fire Resistance of Aggregates for Reinforced Concrete.

ROYAL INSTITUTION OF GREAT BRITAIN, at 9.—Sir Robert Robertson: War Developments of Explosives.

SATURDAY, MAY 7.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Prof. E. C. C. Baly: Chemical Reaction.

MONDAY, MAY 9.

ROYAL INSTITUTION OF GREAT BRITAIN, at 5.—General Meeting.

ROYAL GEOGRAPHICAL SOCIETY (at Lowther Lodge), at 5.—Col. Sir Sidney Burrard: The Origin of Mountain Ranges.

INSTITUTION OF ELECTRICAL ENGINEERS (Informal Meeting) (at Chartered Institute of Patent Agents), at 7.

INSTITUTION OF MECHANICAL ENGINEERS (Graduates' Meeting), at 7.—W. H. Sawyer: The Engineering Aspect of Modern Iron-foundry Practice.

FARADAY SOCIETY (at Chemical Society), at 8.—E. K. Rideal and U. R. Evans: The Problem of the Fuel Cell.—L. F. Knapp: The Solubility of Small Particles and the Stability of Colloids.—Prof. F. G. Donnan: Note on a Formula Expressing the Variation of Surface Tension with Temperature.—Studies in Capillarity: Continuation of Discussion held at Manchester on the following papers:—A. Ferguson: Part I. Some General Considerations and a Discussion of the Methods of Measuring Interfacial Tensions.—A. Ferguson and P. E. Dowson: Part II. A Modification of the Capillary Tube Method for the Measurement of Surface Tensions.

SURVEYORS' INSTITUTION, at 8.—T. A. O'Donahue: The Valuation of Mineral Properties, with Special Reference to Post-War Conditions.

TUESDAY, MAY 10.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Prof. A. Keith: Darwin's Theory of Man's Origin in the Light of Present-Day Evidence.

INSTITUTION OF PETROLEUM TECHNOLOGISTS (at Royal Society of Arts), at 5.30.—Prof. P. Carmody: Trinidad as a Key to the Origin of Petroleum.

ZOOLOGICAL SOCIETY OF LONDON, at 5.30.—R. I. Pocock: The Auditory Bulla and other Cranial Characters in the Mustelidae (Martens, Badgers, etc.).—G. S. Thapar: The Venous System of the Lizard, *Varanus bengalensis*, Daud.—Dr. C. W. Andrews: The Skull of *Dinothierium giganteum* in the British Museum.

ROYAL PHOTOGRAPHIC SOCIETY, at 7.—L. P. Clerc: The Theory of the Screen in Half-Tone Work.—K. C. D. Hickman: Suggestions for a New Printing Process.—Prof. The Svedberg: Behaviour of the Silver Bromide Particles in Dry Plates towards Light, α and β Rays.

QUEKETT MICROSCOPICAL CLUB, at 7.30.

WEDNESDAY, MAY 11.

NEWCOMEN SOCIETY (at Iron and Steel Institute), at 5.—Rhys Jenkins: Rise and Fall of the Sussex Iron Industry (conclusion).

ROYAL SOCIETY OF ARTS, at 6.—A. E. Haves: Phonoscript: A New Method in the Phonetic Teaching of English Pronunciation.

ROYAL MICROSCOPICAL SOCIETY (Metallurgical Section), at 7.30.—G. Hatchin: The Application of Microscopy to the Metal Industry.

INSTITUTION OF AUTOMOBILE ENGINEERS (at Institution of Mechanical Engineers), at 8.

THURSDAY, MAY 12.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Dr. C. S. Myers: Psychological Studies: (2) The Appreciation of Music.

INSTITUTE OF PATHOLOGY AND RESEARCH (St. Mary's Hospital, Pad-

dington), at 4.30.—Sir James Mackenzie: The Opportunities of the General Practitioner are Essential for the Investigation of Disease and for the Progress of Medicine.

ROYAL SOCIETY, at 4.30.—*Probable Papers*.—G. W. Walker: The Problem of Finite Focal Depth revealed by Seismometers.—E. A. Griffiths: A Liquid Oxygen Vaporiser.—Dorothy M. Palmer and W. G. Palmer: Some Experiments on the Catalytic Reduction of Ethylene to Ethane.—W. G. Palmer: The Catalytic Activity of Copper. Part II.—Prof. J. F. Jenkin and D. N. Shorthose: The Total Heat of Liquid Carbonic Acid.—Dr. A. O. Rankine: The Viscosity and Molecular Dimensions of Gaseous Cyanogen.

LONDON MATHEMATICAL SOCIETY (at Royal Astronomical Society), at 5.

FRIDAY, MAY 13.

ROYAL ASTRONOMICAL SOCIETY, at 5.

PHYSICAL SOCIETY OF LONDON (at Imperial College of Science and Technology), at 5.—L. Hartshorn and E. S. Keeping: Notes on Vacuum Tubes used as Detectors of Electrical Oscillations.—B. W. Clack: The Coefficient of Diffusion of Certain Saturated Solutions.—Dr. G. D. West: Experiments on Thermal Transpiration Currents.

ROYAL SOCIETY OF MEDICINE (Clinical Section), at 5.30.—Annual General Meeting.

ROYAL INSTITUTION OF GREAT BRITAIN, at 9.—Dr. W. Bateson: The Determination of Sex.

SATURDAY, MAY 14.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Prof. E. C. C. Baly: Chemical Reaction.

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